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ABSTRACT

This journal provides a focal point for the collection and distribution of systematically processed information about theory and practice in theatre. Part of an irregularly published series, this issue contains investigations of possible effects of counterattitudinal role-playing on actors' attitudes and self-concept, cognitive dissonance and role-playing in the theatre, the relationship of perceptions of the body to pantomimic ability, and "believability" of performance perceived in a communications context. In addition, empirical research concerning the frequency of actors' "micro-momentary facial expressions," or expressions of nervousness, fatigue, or fear which appear during a performance, is summarized. (KS)

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RESEARCH NOTES: The Southeastern Region HEW NCERD has awarded a grant totaling $10,000 for a project entitled "A Systematic Analysis of Dramatic Behavior Norms of Florida Elementary School Children." This project involves the application of the Inventory of Dramatic Behavior originally developed by Gil Lazier and Brian Sutton-Smith (Empirical Research in Theatre, Summer, 1971) to a sample of Florida elementary school children. Project Director is Gil Lazier (F.S.U.) Joseph Karioth (F.S.U.), Douglas Zahn (F.S.U.), and Brian Sutton-Smith (Columbia) are also members of the research team.

George Gunkle has completed a draft of his report to Ralph Allen, Vice-President for Research, ATA, describing the future of empirical research in theatre. He invites criticism and comments on the report which may be obtained from him at Department of Theatre, San Fernando Valley State College, Northridge, California.

IS SAYING BELIEVING? POSSIBLE EFFECTS OF COUNTERATTITUDINAL ROLE-PLAYING ON ACTORS' ATTITUDES AND SELF-CONCEPT

Gerald R. Miller

Although progress has been slow and halting, an expanding cadre of scholars has accepted the idea that the behavioral sciences and the theatre are intellectual allies, rather than scholarly antagonists. The "scientific rustle.... heard from the wings of the contemporary stage," (Miller, 1967) which I noted five years ago, has swelled in volume. And with this increased interest in behavioral theatre research has arisen the concomitant question: what theories, methods, and problem areas of the behavioral scientist are particularly relevant to various dimensions of the theatre experience? This paper deals with one such problem area.

"We are more easily persuaded, in general, by the reasons we ourselves discover than by those which are given to us by others" (Elms, 1969). These words of Pascal provide a convenient starting point, for they capture the credo of a large group of persuasion researchers; who, in the last decade or so, have busied themselves in the study of the effects of counterattitudinal role-playing on attitude change. As I have indicated, this paper stems from the assumption that their research has considerable utility for the student of theatre. And even if I am wrong, what could provide a better potential source for a union between communication researcher and theatre scholar than the venerable construct of role-playing?

The burden of this paper is threefold: first, to define the concept of counterattitudinal role-playing; second, to consider briefly some variables studied by persuasion researchers concerned with counterattitudinal role-playing and attitude change; and third, and most importantly, to demonstrate the relevance of the question of counterattitudinal role-playing's persuasive effects to certain aspects of the acting experience, primarily to suggest avenues for possible future research. In the interests of brevity, I shall not attempt to summarize the voluminous literature which focuses on the persuasive effects of counterattitudinal role-playing. For those wishing to probe more deeply into the research, sources such as Abelson et al. (1969), Elms (1969), and Miller (in press) provide good syntheses of the literature.

The Defining Characteristics of Counterattitudinal Role-Playing

As used in this paper, the term counterattitudinal

role-playing serves as a shorthand label for the following set of circumstances: "an individual is induced, by some means, to encode and/or to present a message that demonstrably conflicts with his prior attitudes" (Miller, in press). In this situation, the persuasion researcher's interest centers on the extent to which the individual's participation in role-playing produces a modification of his original attitudes toward the message topic, as well as the variables facilitating or inhibiting such attitudinal modification.

It must be granted that this definition focuses on only one narrow aspect of role-playing, as the term is typically employed by theatre students. Still, the definition underscores the theatre situation of central concern to this paper: a situation in which an actor takes the role of a character whose personality characteristics or ideological posture conflict demonstrably with his own. Since acting is essentially a message encoding process, the following general question becomes fair game for research: to what extent will the actor's portrayal of this belief-discrepant role produce changes in his attitudes toward himself (self-concept) or his attitudes toward the social or political positions championed by the character he is portraying? As I will attempt to demonstrate later, this general question yields numerous researchable hypotheses for the student of theatre.

An Overview of Some Counterattitudinal Role-Playing Variables Studied by Persuasion Researchers

Probably the most lively controversy existing among persuasion researchers centers on the relationship of justification to attitude change following belief-discrepant role-playing experiences. Dissonance theorists argue that justification is negatively related to attitude change; i.e., the less the justification, the greater the subsequent persuasive impact of counterattitudinal role-playing (Festinger and Carlsmith, 1959). Conversely, incentive theorists posit a direct relationship between the two variables; i.e., the greater the justification, the greater the subsequent persuasive impact of counterattitudinal role-playing (Janis and Gilmore, 1965). To understand the grounds for these conflicting predictions, it is necessary to contrast briefly the two theoretical positions.

Dissonance theory holds that pressure for attitude change results from inconsistency produced by the conflicting cognitions: (1) I believe x, and (2) I am publicly advocating not-x. Since inconsistency, or dissonance, is psychologically

disturbing, the counterattitudinal role-player will behave in some way calculated to reduce it. One means at his disposal is to change his attitude toward the initially belief-discrepant issue, thereby creating psychological harmony between his private beliefs and his public behavior. But if his behavior is strongly justified--i.e., if he receives a handsome financial or social reward for counterattitudinal role-playing--he is less likely to change his attitudes, for he can readily reduce dissonance by reasoning that the handsome reward justified his belief-discrepant actions.

In contrast to dissonance theory, incentive theory posits that attitude change results from the counterattitudinal role-player's biased scanning of formerly belief-discrepant arguments. "This biased scanning increases the salience of the positive arguments and therefore increases the chances of acceptance of the new attitude position. A gain in attitude change would not be expected, however, if resentment or other interfering affective reactions were aroused by negative incentives in the role-playing situation." ([italics mine],Janis and Gilmore, 1965). Since the presence of only minimal financial or social justification constitutes a negative incentive, it would be expected to inhibit attitude change. In essence, incentive theorists argue that if persuasion is the goal, counterattitudinal role-players should be handsomely rewarded for lying.

Choice is another variable which influences the persuasive efficacy of counterattitudinal role-playing (Miller and Burgoon, in press). Here, dissonance and incentive theorists agree: the greater the role-player's perceived choice, the greater the persuasive impact of counterattitudinal role-playing. For the dissonance theorist, perceptions of low choice provide an alternate avenue for dissonance reduction; the counterattitudinal role-player can rationalize his behavior by lamenting that he had little to say about the matter. In incentive theory terms, low perceived choice functions as a negative incentive which interferes with biased scanning. Thus, no matter what one's theoretical leanings, a counterattitudinal role-player constrained by conditions of low choice would not be expected to demonstrate as much attitude change as a high choice counterpart.

A third variable of potential interest is effort (Miller and Burgoon, in press). Again, dissonance and incentive formulations seem to concur on the relationship of effort to attitude change following counterattitudinal role-playing; specifically, high effort expenditure facilitates attitude

change. Given a dissonance perspective, expenditure of considerable effort heightens inconsistency, for not only has the role-player assumed a belief-discrepant public stance, he has worked hard to assume it. By contrast, if the energy demands are trivial, he can reduce dissonance by reasoning that his physical and psychic investment have been limited. For the incentive theorist, on the other hand, effort is inextricably bound up with justification, since positive incentives supposedly motivate persons to work harder at scanning and composing belief-discrepant arguments.

While this brief inventory of counterattitudinal role-playing variables studied by persuasion researchers has only scratched the surface, it provides a foundation for relating questions about the persuasive efficacy of counter-attitudinal role-playing to certain dimensions of the acting experience. More specifically, it enables me to pose some questions and hypotheses of interest to the student of theatre, a task to which I next turn.

The Relevance of Counterattitudinal Role-Playing Research to the Student of Theatre

Recall that the theatre situation most analogous to that typically studied by persuasion researchers concerned with counterattitudinal role-playing effects was described as follows: an actor takes the role of a character whose personality characteristics or ideological posture conflict demonstrably with his own. Given these circumstances, consider how the following two hypothetical sets of outcomes may influence the persuasive impact of the actor's belief-discrepant role-playing experience.

In the first case, the play is a colossal turkey. The reviews are uniformly bad, and the actor is unmercifully panned for his performance. If it is a professional endeavor, the play closes after one or two performances; if it is a product of educational or community theatre, audiences agree it represents the low point of the season. In short, the whole venture would have been better left in the rehearsal hall.

In the second instance, our hypothetical actor fares much better. The play is critically acclaimed, and the actor's own performance draws rave reviews, perhaps to the extent that he is the recipient of a highly prized award. The play's success assures the actor a long run, with its attendant professional and financial returns. In a nutshell, the actor has been handsomely rewarded for assuming the belief-discrepant role.

(Perhaps the most familiar contemporary case of an actor being handsomely rewarded for counterattitudinal role-playing is Carroll O'Connor's portrayal of Archie Bunker, in television's "All in the Family." Several persons connected with the show have asserted that the liberal O'Connor experiences some qualms about assuming the character of the prejudiced, bigoted Archie.)

By now, my intent should be apparent. After placing an actor in a situation which requires him to assume a belief-discrepant role, I have hypothetically varied the magnitude of justification associated with his role-playing behavior. Of course, my hypothetical manipulation is exaggerated, for it is doubtful that all of the justifying circumstances would fall this nicely into place. Still, to the extent that justification for understanding a belief-discrepant characterization can be systematically varied--and I believe it can--it becomes possible to test competing predictions generated by dissonance and incentive theories. For dissonance theory predicts that the actor will "become more like the character" if he receives minimal justification for taking the role, while incentive theory predicts the opposite relationship. It would be intriguing to try to resolve this theoretical conflict in a theatre setting. The problem is further complicated by the fact that justification apparently interacts with such variables as choice and relative degree of publicness of the counterattitudinal act (Linder, Cooper, and Jones, 1967; and Carlsmith, Collins, and Helmreich, 1966).

Similar questions can be posed concerning the previously mentioned variable of choice. Contrast a situation in which an actor is cast in a belief-discrepant role for which he initially chose to audition with one where, after reading for several parts, he is assigned a part by the director. Here we would expect more attitude change consistent with the character portrayed under conditions of high choice. One possible problem should be noted; little, if any, evidence has been collected regarding the extent to which actors, when left to their own devices, will choose to read for a role that departs radically from their own personal and attitudinal preferences.

Finally, it should be obvious how the effort variable lends itself to study in a theatre setting. When preparing a role, the actor may be exposed to varying demands by the director, demands calculated to influence the amount of effort the actor must expend. Indeed, it would be possible to study the effects of different directing styles on the actor's attitudes toward the initially belief-discrepant character. One might ex-

pect a "method" approach to place higher energy demands on the actor, thereby heightening the persuasive impact of the role-playing experience. Moreover, it might be possible to demonstrate that such factors as number of rehearsals, length of a given rehearsal, or length of a play's run represent variations in effort likely to affect the amount of attitude change resulting from counterattitudinal role-playing--though in the case of running time, effort appears to be confounded with the variable of justification.

While a detailed discussion of methodological matters transcends the purview of this paper, it may be useful to consider briefly the operational application of the counterattitudinal role-playing paradigm to a theatre setting. Figure 1 provides such an operational description. Note that the re-

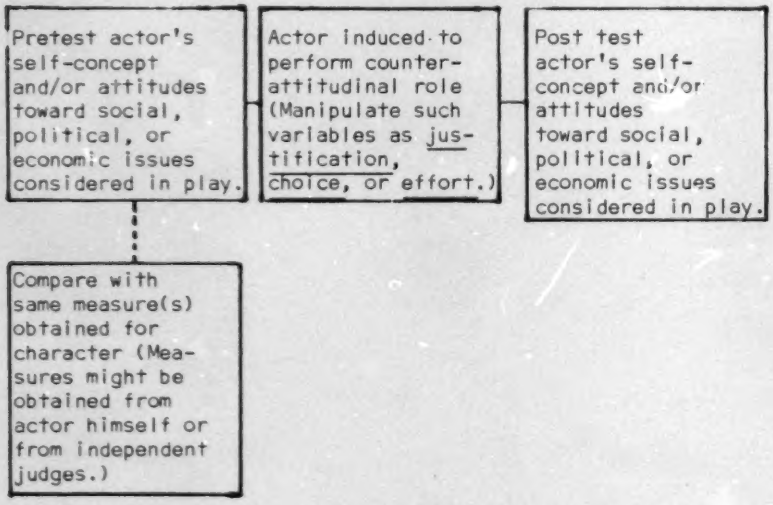
Pretest actor's self-concept and/or attitudes toward social, political, or economic issues considered in play.
Actor induced to perform counter-attitudinal role (Manipulate such variables as justification, choice, or effort.)
Post test actor's self-concept and/or attitudes toward social, political, or economic issues considered in play.
Compare with same measure(s) obtained for character (Measures might be obtained from actor himself or from independent judges.)

Figure 1. Counterattitudinal role-playing paradigm operationally applied to theatre setting.

searcher must first administer a pretest to determine the actor's self-concept or his attitudes toward certain social, political, or economic issues dealt with in the play. To ascertain that the role-playing demands are actually counterattitudinal, the researcher must also have available rating data on

the character's self-concept and attitudes for comparative purposes. Although these data could be obtained from the actor himself, such a procedure poses a possible problem: the actor may distort his ratings of the character to avoid perceiving the role as belief-discrepant. Thus, a preferred procedure involves compilation of the character's personality or attitudinal profile on the basis of ratings obtained from independent judges.

Next, the actor actually engages in a counterattitudinal performance. At this stage of the process, the researcher seeks to manipulate any variables he may wish to study. For example, as indicated in Figure 1, he may vary the justification provided for counterattitudinal role-playing, the degree of choice extended to the actor, or the amount of effort associated with the counterattitudinal performance. It should be noted that while my earlier examples capitalized on actual theatre performances, the researcher may have better luck manipulating and controlling variables in more structured situations. Thus an acting class--besides providing a large sample of actors to engage in counterattitudinal role-playing--enables the researcher to manipulate justification by assigning differing grades to actors' performances or by varying the importance of the performances for actors' assessments.

Finally, the researcher must obtain post test measures of the actor's self-concept or his attitudes toward the relevant social, political or economic issues, for comparison of pretest and post test scores indicates whether change in the actor's self-concept or attitudes has occurred. When obtaining post-performance measures, the researcher would also be well-advised to ask the actor to rate his character on the same scales. Such a procedure permits the researcher to identify actors who may have reduced dissonance by altering their perceptions of the character's self-concept or attitudes, rather than by changing their own.

Although the task is certainly not an easy one, exploration of problems such as those discussed in this paper should enrich the theatre student's understanding of the behavioral effects of certain acting experiences. Moreover, the general problem posed seems to square closely with some intuitive feelings shared by theatre scholars. While laying no claim to expertise as a theatre historian, I recall instances where assumption of a particular role was assumed to exert a powerful impact on the actor's personality. Whether the role was initially belief-discrepant we have no way of knowing. But

by applying the relatively powerful methods of behavioral research to this dimension of the acting experience, we may be able to untangle some of the complex relationships inherent in it. At least, the game would seem to be worth the candle.

References

Gerald R. Miller is Professor of Communication, Michigan State University. An earlier version of this paper was presented at the convention of the Speech Communication Association, San Francisco, December, 1971.

Abelson, R. P., et al. (Eds.). Theories of Cognitive Consistency: A Sourcebook. Chicago: Rand McNally, 1968.

Carlsmith, J. M., Collins, B. E., and Helmreich, R. K. Studies in Forced Compliance: I. The Effect of Pressure for Compliance on Attitude Change Produced by Face-to-Face Role Playing and Anonymous Essay Writing. Journal of Personality and Social Psychology, IV, 1966, 1-13.

Elms, A. C. Role-Playing, Reward, and Attitude Change. New York: Van Nostrand Reinhold Company, 1969.

Festinger, L. and Carlsmith, J. M. Cognitive Consequences of Forced Compliance. Journal of Abnormal and Social Psychology, LXIII, 1959, 203-210.

Janis, I. L. and Gilmore, J. B. The Influence of Incentive Conditions on the Success of Role Playing in Modifying Attitudes. Journal of Personality and Social Psychology, I, 1965, 17-27.

Linder, D. E., Cooper, J., and Jones, E. E. Decision Freedom as a Determinant of the Role of Incentive Magnitude in Attitude Change. Journal of Personality and Social Psychology, VI, 1967, 245-254.

Miller, G. R. Counterattitudinal Advocacy: A Current Appraisal. in C. Mortensen and K. Sereno (Eds.). Advances in Communication Research. New York: Harper and Row, in press.

Miller, G. R. The Cue's View. The Cue, XLII, 1967, 3.

Miller, G. R. and Burgoon, M. New Techniques of Persuasion. New York: Harper and Row, in press.

DISSONANCE AND ROLE-PLAYING IN THE THEATRE

Harry W. Mossman

The following is an attempt to outline the implications of the forced compliance paradigm of dissonance theory for empirical research in the theatre. It is primarily a response to Miller's (1971, Editor's note: see lead article in this journal) proposal of a union between the latter discipline and role-playing research. The specific type of role-playing research Miller is referring to deals experimentally with what happens to a subject's attitudes when he writes a counterattitudinal essay or gives a counterattitudinal speech. In general it has been found that such behavior leads to a change of attitude in the subject which is in the direction of the advocated position. Miller suggests that similar change may be expected when an actor plays a role on stage, and that the theories and techniques of role-playing research might be adopted usefully for theatre research.

As interesting as this proposal sounds, it has certain problems. The most important of these is that it makes no difference artistically what playing a counterattitudinal role does to an actor's own attitudes unless those attitudes have an observable, systematic effect on his on-stage behavior. It seems unwise to assume simply that they do. Indeed, it may be unwise to assume that theatrical role-playing has the same effect on attitudes as non-theatrical role-playing, since acting is, in a sense, make-believe. This author is engaged in research designed to test these assumptions, and since that research is based on the conviction that dissonance theory gives a better explanation of the effect of non-theatrical role-playing than incentive theory this article will focus on the former, especially its forced compliance paradigm.

Forced compliance

The forced compliance paradigm was born of an experiment conducted by Festinger and Carlsmith (1959) designed to test Festinger's theory of cognitive dissonance (1957).

Briefly, the theory follows: after every decision we experience some psychological discomfort. There are always reasons why we should have picked the rejected alternative. The more of these there are, the more discomfort we feel. Festinger simply hypothesized that a process exists in the individual for reducing that discomfort. The forced compliance paradigm is an attempt at understanding what happens when a person decides to engage in behavior that is counter to one or more of his atti-

tudes. The theory is that the more money a person is given for such behavior, the more reason he has for doing it. The more reason he has for doing it, the less dissonance or discomfort he will experience. If he feels that the payment is adequate he will experience none at all. If, on the other hand, he does not feel it is adequate, he will find it necessary to reduce the perceived dissonance one way or another. Sometimes he will change his attitude to conform with his behavior.

Festinger and Carlsmith predicted, therefore, that the less money they gave subjects for lying the more the subjects' attitudes would change to conform to the lie. Results clearly supported this hypothesis.

Acting as forced compliance

Logically, there is nothing inconsistent about playing a counterattitudinal role on stage. The play or production as a whole may have a rhetorical message which is unacceptable to the actor, but assuming that it does not, there is no particular reason why playing the "bad guy" should be unpleasant. In theory the actor is saying: "If I were this character, this is how I would act." But dissonance is psychological inconsistency, of which logical inconsistency is but a small part. According to dissonance theory, if a person perceives two cognitions to be inconsistent, he will experience psychological discomfort, even if there is absolutely nothing logically inconsistent about them. It is a common observation that playing a character whose attitudes differ from one's own does lead to discomfort. The crucial question is whether this discomfort may be appropriately described as dissonance.

Dissonance researchers generally use attitude change as a dependent measure. As mentioned above, empirical researchers in theatre will also have to use dependent measures involving the role-playing itself. This is not too difficult. For example, Festinger hypothesized that dissonance is a drive state like hunger and thirst (1957). Various investigators (Cottrell and Wack, 1967; Waterman, 1969; and Pallak, 1970) have found support for the obvious deduction, from Hull-Spence drive theory, that dissonance would, therefore, facilitate dominant responses, inhibit others, and generally energize the person experiencing it. One could predict that the more dissonance an actor in a well learned role experiences, the better he will perform in a simple, technical sense. Against this hypothesis it could be argued that when an actor goes on stage his dissonance crisis is far behind him and should have little or no effect on his

performance. However four separate investigations (Tannenbaum et al., 1963; Kepke, 1963; Hansen, 1966; and Smith, 1971) have found unusual activity pertaining to concepts of self and character occurring about the time of the final dress rehearsal. It is not difficult to suggest a hypothesis based on dissonance theory. As the opening night gets closer and closer, the actor becomes increasingly aware that he will be playing the role in public. It is reasonable to expect that this added cognition would upset the equilibrium he has achieved, forcing him to begin once again the process of reduction. He might, therefore, be in a state of dissonance as the opening performance occurs.

Miller discusses three independent variables that are known to affect the amount of attitude change that occurs in the role-player--justification, choice, and effort. Several remarks need to be made about his treatment of justification. Miller describes alternate situations in which the actor is either a total failure or a smashing success and states that dissonance theory would predict more attitude change in the former situation. That explanation may be a simplification. The current tendency (Linder, Cooper, and Jones, 1967) is to treat unexpected outcomes as reinforcers. The dissonance effect is predicted on the basis of prior justification. In other words, attitude change is predicted to vary inversely with the actor's expectation of success and with the degree to which this success is important to him. These are the variables that presumably affect his actual on-stage behavior. If the audience response is about what he expected, it will have little effect on his attitudes or performance. If, on the other hand, his expectations are not confirmed, the audience response will act as a reinforcer. Unexpected success will increase attitude change and unexpected failure will decrease it. Linder, Cooper, and Jones discovered that they could obtain forced compliance effects by offering payment before the subject committed himself and reinforcement effects by offering it after.

It should be noted that most roles in the theatre are not explicitly counterattitudinal. But there is some unpublished evidence that would lead us to predict similar effects with attitudes that are the same as one's own but more extreme. It would also be worth investigating whether the same effects would occur with a character whose attitudes are the same as one's own but who one perceives as having a very different personality. The effect of playing two or more very different roles on either personality or attitude would also be of interest.

Consistency and creativity

While the forced compliance paradigm does seem to hold heuristic potential for empirical theatre researchers, there are reasons why these researchers might not want to adopt orthodox dissonance theory wholesale. Being homeostatic, the theory characterizes the individual as striving to maintain a tension free condition. This seems incompatible with the image most theatre researchers have of man as a creative animal. That view characterizes the artist as learning to live with cognitive tension and building increasingly complex patterns of cognitions. This is what Buckley (1967) calls a complex adaptive theory.

Various theorists have suggested conceptions of the process of dissonance arousal and reduction that are compatible with the complex adaptive model. For example, Back (1968) has suggested that we view the need for cognitive consistency as lying between need reduction and growth. He notes that, pushed to its logical end, consistency theories imply that we all want to see the world in terms of "good guys' and "bad guys," whereas, in fact, creativity seems to depend on "keeping seemingly contradictory cognitions in mind for a long time and preventing premature closure or balance" (1968, p. 315). Back cites Peckham (1967), who believes that the function of art is to introduce variety (or chaos as Peckham calls it) into social systems. Similarly, Berlyne (1968) classes dissonance with other forms of conflict, all of which he sees as arising when there exists within the individual incompatible response tendencies. Such a situation results in a state of arousal, which lasts until some sort of resolution is arrived at by a higher level of the nervous system. In other words, Berlyne views reduction as a simple, homeostatic process, but he is also aware that it is regulated by higher systems which may prevent the process from occurring. Berlyne cites a variety of evidence supporting the common-sense idea that stimuli which lead to conflict are often welcomed for the arousal they produce. Other theorists have articulated similar views (see Maddi, 1968; Kelman and Baron, 1968).

Many writers also note the functional value of dissonance reduction. For example, Gerard (1968) writes:

> It is simply nonadaptive for the person to imagine all of the desirable features of the Chevrolet or to be preoccupied with the Ford's negative features after he has bought and is stuck with the Ford. He must maintain an unequivocal behavioral orientation toward the Ford. (p. 457)

But some people go on doubting the wisdom of their decisions. Gerard recognizes that it is not always adaptive to maintain an "unequivocal orientation." He cites results from experiments that suggest that unequivocal conformity and non-conformity result from the felt necessity of saving face. Subjects in face-to-face conditions of a study based on the Asch paradigm tended to cling stubbornly to their initial orientations despite mounting pressure or physical evidence. In contrast, anonymous subjects run in individual cubicles tended to strike a balance between conformity and non-conformity.

Outside the laboratory the most adaptive action might be to investigate why the disagreement occurred in the first place. Such behavior would exemplify the complex adaptive model. A concrete example would be an actor who neither imitates nor ignores the director but comes up with a characterization that builds on both his and the director's insights.

Summary

The following observations have been made about the usefulness of the dissonance theory forced compliance paradigm for theatre research:

1) It remains to be proven that counterattitudinal acting arouses dissonance.

2) It is reasonable to hypothesize that it does arouse dissonance.

3) Even if it does we must still ask whether performance is systematically affected.

4) The energizing effect of drive level is suggested as one possible systematic effect of dissonance.

5) It is important to distinguish clearly between justification and reinforcement. They are probably important at different stages of the creative process.

6) Most theatrical roles are probably not explicitly counterattitudinal.

7) Self-concept conflicts and other possible sources of dissonance need study.

8) Creativity seems to require the postponement of dissonance reduction.

9) Dissonance theory is not necessarily incompatible with theories of creativity.

Conclusion

All things considered, there is reason for cautious optimism about the usefulness of the forced compliance paradigm for empirical research in theatre.

References

Mr. Harry W. Mossman is a doctoral candidate at the University of Iowa.

Back, K. W. Equilibrium as Motivation: Between Pleasure and Enjoyment. In R. P. Abelson, et al. (Eds.), Theories of Cognitive Consistency: A Sourcebook. Chicago: Rand McNally & Co., 1968.

Berlyne, D. E. The Motivational Significance of Collative Variables and Conflict. In Abelson, Theories.

Buckley, W. Sociology and Modern Systems Theory. Englewood Cliffs, N. J.: Prentice-Hall, 1967.

Cottrell, N. B., and Wack, D. L. The Energizing Effect of Cognitive Dissonance upon Dominant and Subordinant Responses. Journal of Personality and Social Psychology, 1967, 6, 132-138.

Festinger, L. A Theory of Cognitive Dissonance. Evanston, Ill.: Row, Peterson, 1957.

Festinger, L., and Carlsmith, J. M. Cognitive Consequences of Forced Compliance. Journal of Abnormal and Social Psychology, 1959, 58, 203-210.

Gerard, H. B. Basic Features of Commitment. In Abelson, Theories.

Hansen, B. K. The Semantic Differential as a Measure of Meaning in the Theatre. (Doctoral dissertation, University of Minnesota) Minneapolis, Minn.: University Microfilms, 1966, Number 67-7732.

Kelman, H. C., and Baron, R. M. Inconsistency as a Psychological Signal. In Abelson, Theories.

Kepke, A. N. A Study of Communication of Perception of Character Among Actors, Director, and Audience Using Q Methodology. (Doctoral dissertation, Michigan State University) Lansing, Mich.: University Microfilms, 1963, Number 64-7520.

Linder, D. E., Cooper, J., and Jones, E. E. Decision Freedom as a Determinant of the Role of Incentive Magnitude in Attitude Change. Journal of Personality and Social Psychology, 1967, 6, 248-254.

Maddi, S. R. The Pursuit of Consistency and Variety. In Abelson, Theories.

Miller, G. Is Saying Believing? Possible Effects of Role-Playing on Attitudes and Self-Concept. Paper presented at the meeting of the Speech Communication Association, San Francisco, December 1971.

Pallak, M. S. Effects of Expected Shock and Relevant or Irrelevant Dissonance on Individual Retention. Journal of Personality and Social Psychology, 1970, 14, 271-272.

Peckham, M. Man's Rage for Chaos. New York: Schocken Books, 1967.

Smith, R. W. Actor-Character Personality Identification in a Theatre Production. Empirical Research in Theatre, 1971, 1, 29-37.

Tannenbaum, P. H., Greenberg, B. S., & Leitner, M. A. Changes in Semantic Compatibility During the Production of a Play. Speech Monographs, 1963, 30, 340-344.

Waterman, C. K. The Facilitating and Interfering Effects of Cognitive Dissonance on Simple and Complex Paired Associates Learning Tasks. Journal of Experimental Social Psychology, 1969, 5, 31-42.

THE RELATIONSHIP OF PERCEPTIONS OF THE BODY TO PANTOMIMIC ABILITY I: BODY-CATHEXIS

Clarence W. Bahs and John Stockwell

One of the earliest thrusts of empirical research in the theatre was the attempt to define the acting personality (Drake, 1950; Golden, 1940; Tracy, 1935; Stock, 1969). Since 1935, considerable effort has been directed toward substantiating the notion that the actor possesses a set of personality characteristics which isolates him from the general population. This research was paralleled by an equally enthusiastic attempt to define the personality of the public speaker (Ball, 1958; Barnes, 1960; Finfgeld, 1966; Gilkinson & Knower, 1940). Together, these studies have yielded a varied and somewhat colorful, if not entirely definitive picture of the performing personality.

Regardless of the significance of this research, our knowledge of the relationship of the personality of the actor to his performance abilities remains limited. We have no information regarding how specific personality characteristics affect an actor's abilities to perform or to achieve excellence on the stage.

In recent psychological literature, however, much attention has been given to a personality correlate--body image--and its affect on the performance of certain tasks. Although there has been no direct suggestion that body image influences or is related to such specific skills as acting, it must be apparent even to a casual observer of theatre that the actor's ability to use his body as a communicative instrument could be related to what psychologists have viewed as an integral part of the personality structure. Body image studies have offered the theatre researcher not simply the opportunity to understand more about the acting personality, but more important, the studies have provided the possibility for determining the relationship between a particular personality characteristic and artistic competence. The research reported here, dealing with the body-cathexis dimension of body image, is the initial step in a project devoted to increasing this understanding. A further investigation of the relationship between body image, the body boundary dimension, and acting ability has been completed and is reported in "The Relationship of Perceptions of the Body to Pantomimic Ability II: Body Image Boundaries" (Stockwell, 1970).

The Problem

Investigators in the field of psychology have isolat-

ed four dimensions of body image: (1) body consciousness--the degree of importance one attaches to his body; (2) body satisfaction--the nature of the feelings one has for the various parts or processes of his body (Jourard & Secord, "Body Cathexis and Personality," 1955; Secord, 1953; Jourard & Secord, "Body Cathexis and the Ideal Female Figure," 1955; Calden, Lundy & Schlafer, 1959; Jourard & Secord, 1954; Secord & Jourard, 1953); (3) body image boundary--the degree to which one regards his body exterior as a defensive barrier armed against penetration (Cleveland & Fisher, 1954, 1955, 1956, and 1958; Fisher, 1963; Fisher & Fisher, 1964); and (4) body-buffer zone--a person's reaction to personal space or the area immediately surrounding him (Wapner & Werner, 1965; Duff, Horowitz, & Stratton, 1964; McFarland, Wapner, & Werner, 1962; Werner & Wapner, 1949). The purpose of this study was to measure the effect of: (1) the nature of body-cathexis (body satisfaction), and (2) the degree of body-cathexis (body consciousness) on subjects' abilities to perform simple pantomimic movement.

The body-cathexis dimension of body image was selected for the initial study primarily because of its precision in defining a personality structure.

Body image boundary was selected as the variable to be investiaged in the follow-up study as a result of implications drawn from this initial research. In their research of the body-cathexis dimension, Paul F. Secord and Sidney M. Jourard ("Body Cathexis and Personality," 1955) have demonstrated that body satisfaction (nature of body-cathexis) and body consciousness (the degree of body-cathexis) together reveal four mutually exclusive personality types: (1) the highly conscious/highly satisfied (narcissistic), (2) the highly conscious/highly dissatisfied (anxious), (3) the low conscious/highly dissatisfied, and (4) the low conscious/highly satisfied. A further practical and pragmatic reason for selecting the body-cathexis dimension was the availability of projective instruments which could be used in a field situation.

Quite simply, the purpose of this study was to determine what effect the body-cathexis dimension (consciousness and satisfaction) had on the ability of subjects to use their bodies to project a meaningful and artistic pattern of movement.

Procedure

Subjects for the experiment were selected from an introductory course in theatre at Bowling Green University on

the basis of their combined scores on an "H" Test (Homonym Test--a measure of body consciousness--Secord, 1953) and a "BC" Test (Body-Cathexis Test--a measure of body satisfaction--Jourard & Secord, 1953). These two tests were administrered to 152 students enrolled in the course--89 females and 63 males. Subjects were drawn from among those whose scores fell outside of the inter-quartile range--the middle 50 per cent.

On the basis of this quartile deviation, forty subjects were selected to comprise the four sub-groups:

1. $BC_{high}H_{low}$ (High satisfaction/low consciousness)
2. $BC_{low}H_{high}$ (Low satisfaction/high consciousness--anxious)
3. $BC_{high}H_{high}$ (High satisfaction/high consciousness--narcissistic)
4. $BC_{low}H_{low}$ (Low satisfaction/low consciousness)

This yielded five subjects per sub-group, four sub-groups for males, and four sub-groups for females.

A simple pantomime was selected to detect differences among the subjects' ability to move believably. The pantomime was performed in a room separated from a group of six judges--doctoral fellows in the Department of Speech at Bowling Green University--by a one-way mirror which allowed the judges to observe the pantomime without being seen by the subjects. The subjects were aware only of the presence of the two test administrators. Judges' ratings of subjects' ability to communicate believable movement were used as the criterion measure (Bahs, 1969, pp. 136-137).

Judges were asked to respond to six criteria: (1) face, (2) arms and hands, (3) torso, (4) feet and legs, (5) fluidity, and (6) overall evaluation. Both "overall evaluation" and "specific criteria" were rated on a six-item equal interval rating scale ranging from "highly unacceptable" to "highly acceptable." The raw data consisted of 240 "overall evaluation" ratings and 1,200 ratings of "specific criteria"--that is a rating by each of the six judges on the five criteria for forty students.

Treatment of Data

The data from all six criterion measures plus a

summated rating of the criterion measures were submitted to two-dimensional analysis of variance. The two dimensions were: (1) body-cathexis (body consciousness and body satisfaction), and (2) the sex of the performer.

Before it was possible to apply the analyses of variance tests to the data, it was necessary to pre-test the data for homogeneity of variance, reliability of judges' ratings of six criterion measures, and independence of criterion measures.

To assure that the variances of none of the four sub-groups differed significantly, Hartley's F_{max} (Ferguson, 1966, pp. 294-95) was computed. The variances of the ratings for none of the four sub-groups were found to be significantly different; therefore, there was no reason to suspect that the four different sub-groups were drawn from different parent populations.

Ebel's analysis of variance formula (Guilford, 1954, pp. 395-97) for determining reliability also was applied to the data. The reliability coefficients obtained for all subjects and all criteria except "feet and legs" were significant at the .05 level. The lowest reliability was .72. These results were considered satisfactory and seemed to justify further analysis of the data (Bahs, 1969, pp. 65-66).

Finally, to assess the independence of the six criteria used by the judges to evaluate the pantomime, scores on the criteria were intercorrelated. Since all of the coefficients of correlation were as high or higher than their attendant coefficients of reliability the criteria measures were considered to be dependent. The lack of independence suggested that the judges agreed on all criteria as much as they did among themselves on any single criterion (Bahs, 1969, pp. 65-66).

The data were then submitted to a two-dimensional analysis of variance in order to determine whether subjects' scores on body-cathexis tests were related to performance scores on a pantomime. Thus, seven two-dimensional analysis of variance tests were completed: one for the "overall" ratings, one for each of the five "specific" criteria--"face," "arms and hands," "torso," "feet and legs," and "fluidity"--and one for the summated ratings of the specific criteria.

The two-dimensional analysis of variance yielded significant F's for interaction at the .05 level on four of the

seven criteria: (1) "overall evaluation," (2) "face," (3) "fluidity," and (4) "arms and hands." Table I provides a summary of all the significant interactions of the criterion measures.

TABLE

TABLE OF F FOR INTERACTION--TWO-DIMENSIONAL ANALYSIS OF VARIANCE

Sources of Variance	df	F
Overall evaluation	3/32	4.31*
Summated specific criteria	3/32	1.69
Face	3/32	4.40*
Arms and hands	3/32	4.94*
Torso	3/32	2.60
Feet and legs	3/32	2.77
Fluidity	3/32	4.38*

*Significant at .05 level for 3 and 32 df = 2.90.

The primary conclusion to be drawn from these two-dimensional analyses of variance was that body-cathexis interacting with the sex of the subjects differentiated among sub-groups' abilities to use their bodies as communicative instruments; however, the differences were not homogeneous by treatment or by level.

Since a further analysis of the data was warranted, the data were divided according to sex, and simple analyses of variance were computed for: (1) ratings of male subjects, and (2) ratings of female subjects. The data revealed no significant differences among the four treatment groups for any criterion of judgment. Apparently, body-cathexis did not affect the males' ability to perform a pantomime (Summary Tables in Bahs, 1969, pp. 77-80).

As with the data for males, a simple analysis of variance was computed for all seven criteria to determine the effect of body-cathexis on females. Significant differences were revealed among treatment groups on every criteria except "feet and legs" (Summary Tables in Bahs, 1969, pp. 81-84). From these results, it appeared that the criterion of "feet and legs"

had little functional value as a measure of effectiveness in this particular pantomime.

Thus, body-cathexis as defined by the "BC" and "H" tests clearly accounted for movement differences among the female sub-groups. The mean scores of the four sub-groups were compared to determine precisely which groups differed significantly in their ability to move. Since these comparisons were made after, and suggested by, inspection of the data, Scheffe's post hoc method of mean comparison (Ferguson, 1966, pp. 295-97) was applied to the data. The results of the Scheffe test may be found in Table 2.

TABLE 2

SCHEFFE'S POST HOC METHOD, MEAN COMPARISONS AFTER ANALYSIS OF VARIANCE, FEMALE SUB-GROUPS

Comparison	Means	df	Obtained F
	"OVERALL EVALUATION"		
$BC_{high}\ H_{high}$ $BC_{low}\ H_{low}$	23.60 12.20	3/16	18.15*
$BC_{low}\ H_{high}$ $BC_{low}\ H_{low}$	19.40 12.20	3/16	7.24
$BC_{high}\ H_{low}$ $BC_{low}\ H_{low}$	22.40 12.20	3/16	14.53*
	"SUMMATED SPECIFIC CRITERIA"		
$BC_{high}\ H_{high}$ $BC_{low}\ H_{low}$	111.40 59.00	3/16	14.52*
$BC_{low}\ H_{high}$ $BC_{low}\ H_{low}$	91.20 59.00	3/16	5.50
$BC_{high}\ H_{low}$ $BC_{low}\ H_{low}$	104.80 59.00	3/16	11.09*

TABLE 2--Continued

Comparison	Means	df	Obtained F
	"FACE"		
$BC_{high}\ H_{high}$ $BC_{low}\ H_{low}$	22.80 11.60	3/16	8.79*
	"ARMS AND HANDS"		
$BC_{high}\ H_{high}$ $BC_{low}\ H_{low}$	24.60 13.60	3/16	13.66*
$BC_{low}\ H_{high}$ $BC_{low}\ H_{low}$	20.60 13.60	3/16	5.53
$BC_{high}\ H_{low}$ $BC_{low}\ H_{low}$	26.20 13.60	3/16	17.90*
	"TORSO"		
$BC_{high}\ H_{high}$ $BC_{low}\ H_{low}$	22.00 11.00	3/16	15.90*
$BC_{low}\ H_{high}$ $BC_{low}\ H_{low}$	17.60 11.00	3/16	5.72
$BC_{high}\ H_{low}$ $BC_{low}\ H_{low}$	19.40 11.00	3/16	9.27*
	"FLUIDITY"		
$BC_{high}\ H_{high}$ $BC_{low}\ H_{low}$	22.20 11.60	3/16	11.58*
$BC_{low}\ H_{high}$ $BC_{low}\ H_{low}$	19.80 11.60	3/16	6.93
$BC_{high}\ H_{low}$ $BC_{low}\ H_{low}$	20.60 11.60	3/16	8.35*

*Required F' at .10 level of significance = 7.38.

The Scheffe method revealed a definite pattern of significant differences between the mean scores within female sub-groups. For every criteria, the low satisfied, low conscious group (BC_lH_l) had significantly lower performance score means than the high satisfied, high conscious group (BC_hH_h). In addition, on every criteria except "face" the low satisfied, low conscious group (BC_lH_l) had significantly lower performance score means than did the high satisfied, low conscious group (BC_hH_l). Thus, for every criteria except "face," body-cathexis differentiated the movement ability of the low satisfied, low conscious group (BC_lH_l) from the high satisfied, high conscious group (BC_hH_h) and the high satisfied, low conscious group (BC_hH_l).

The "face" criterion revealed significant differences between the low conscious, low satisfied group (BC_lH_l) and the high conscious, high satisfied group (BC_hH_h); but on "face" the body-cathexis dimension failed to yield significant differences between the low satisfied, low conscious group (BC_lH_l) and the high satisfied, low conscious group (BC_hH_l).

Thus, the low satisfied, low conscious female group (BC_lH_l) was differentiated from two of the three remaining groups (BC_hH_h) (BC_hH_l) on the body-cathexis dimension. On most criteria, this sub-group's performance score means were significantly lower than the two other groups; their movement was the least effective.

Since no differences were found between the male groups and consistent differences were found between the female groups, the possibility arose that one of the measures of the body-cathexis test may have attenuated the effect of the other. For this reason, Pearson product moment correlation coefficients were computed between body consciousness and performance scores, and body satisfaction and performance scores for both males and females. The coefficients of the correlation between BC scores and performance scores are found in Table 3 and the coefficients of the correlation between homonym and performance scores are found in Table 4. The tables also include coefficients corrected for attenuation (r_{xw}) due to lack of rater reliability (Guilford, 1954, p. 401).

All of the corrected correlations obtained for female performance scores on the BC test were significant at the .05 level. The evidence indicated that for women the "BC" scores varied significantly with the subject's performance scores. Thus, given a female's "BC" score, her capacity for pantomimic

TABLE 3

TABLE OF CORRELATIONS (r) AND CORRECTED CORRELATIONS (r_{xw}) FOR BC SCORES AND PANTOMIME PERFORMANCE SCORES

Criterion	Male		Female	
	r	r_{xw}	r	r_{xw}
Overall evaluation	-.37	-.39	.64*	.73*
Face	-.37	-.40	.67*	.73*
Arms and hands	-.33	-.36	.68*	.75*
Torso	-.17	-.19	.61*	.69*
Feet and legs	-.36	-.43	.37	.44
Fluidity	-.32	-.39	.55*	.60*

*Significant at the .05 level.

TABLE 4

TABLE OF CORRELATIONS (r) AND CORRECTED CORRELATIONS (r_{xw}) FOR HOMONYM AND PANTOMIME PERFORMANCE SCORES

Criterion	Male		Female	
	r	r_{xw}	r	r_{xw}
Overall evaluation	.06	.07	.27	.29
Face	.11	.13	.13	.14
Arms and hands	.25	.27	.19	.21
Torso	.27	.26	.32	.36
Feet and legs	-.13	-.15	.30	.35
Fluidity	.00	.00	.37	.46

*Significant at .05 level.

movement could be predicted with some assurance. None of the corrected coefficients for males was significant.

The Pearson r's and the corrected coefficients of

correlation between the "H" Test and performance scores are presented in Table 4. None of the coefficients were significant for either males or females.

Results

1. There was no correlation between the Homonym Test (degree of body-cathexis--body consciousness) and the pantomimic performance scores for either male or females (see Table 4). So apparently, the ability to perform pantomimic movement is not affected by the degree in which one is or is not conscious of his body.

2. For females, performance scores were found to be correlated with satisfaction ("BC") test scores. The correlations were, moreover, relatively high (all were above .44) and significant at the .05 level (see Table 3). It can be said, then with some measure of assurance that a woman's ability to move is strongly related with the degree to which she is, or is not, satisfied with her body.

3. Though the correlations for males were not significant, there was a consistent negative correlation between males' satisfaction ("BC") test scores and their performance scores (see Table 3). The implications are that the body satisfaction dimension could effect males' and females' abilities to move in an opposite manner.

4. Whereas the degree of body-cathexis (body consciousness) appears to have no predictive value in terms of pantomimic movement, the nature of body-cathexis (body satisfaction) appears to have considerable value for predicting females' abilities to perform pantomimic movement and vice versa. In other words, a female's ability to perform a pantomime is related to the degree to which she is satisfied with her body. If nothing else, this study has made it evident that some personality characteristics may be related to performance abilities.

Discussion of Results

Sidney M. Jourard and Paul F. Secord ("Body Cathexis and the Ideal Female Figure," 1955) have offered some explanation as to why body satisfaction affected a female's ability to perform a pantomime. In this study, Secord and Jourard demonstrated that females share a "stereotyped" concept of the ideal woman. They have paraphrased the female ideal as: "It is good to be smaller than you are in all dimensions except bust." Thus, a

woman's satisfaction with aspects of her body varied with the magnitude of the deviation between measured size and what she considers to be the ideal size.

In their study, Secord and Jourard found that none of the women had physical dimensions identical or even very similar with their ideal self-ratings and none had rated all of their body parts positively. Thus, the size specification of the ideal female figure in our culture appears extremely illusive. Satisfaction ratings, it would seem, are assigned according to internal norms.

When a woman's body approaches the ideal, she has positive feelings toward her body and is satisfied. Perhaps, this is because her security is conditioned by the degree to which she perceives attractiveness in terms of herself and males' attitudes toward her. Hence, if she does not perceive herself as attractive, "beautiful," she feels a loss of self-esteem and becomes insecure. Some evidence for this interpretation is available in a previous study by Secord and Jourard (1953) which showed that body satisfaction is correlated with security as measured by Maslow's test. Since our culture has made it difficult for women to attain the ideal (inasmuch as it is internalized), that ideal is responsible for much insecurity among members of that sex.

Thus, the woman who is most satisfied with her body--perceives herself as approaching the "ideal" and has a sense of security--may be better able to perform a pantomime. This interpretation would appear to be consistent with earlier theatre studies investigating the personality of the actor (Drake, 1950; Stock, 1969). Evidence would appear to support the conclusion that the more closely a female's body approximates her concept of the ideal female figure, the more secure she will be, the more satisfied she will be with her body and, hence, the better she will be able to use her body as a communicative instrument.

The reasons why body consciousness was not found to be related to subjects' ability to perform pantomimic movement can only be speculative and it would be fruitless to go farther in attempting to list the possibilities. The most plausible explanation is that the female ideal is so internalized that consciousness of the body (the degree of awareness) makes her no more or less able to use her body as a communicative instrument.

The reasons why body satisfaction did not appear to affect males' abilities to perform a pantomime seems to be most

readily explained by the fact that males in our culture do not make fine cathexis discriminations within their phenomenal body structures. In other words, a woman's body is somewhat more important to her attainment of acceptance and security than is a man's body. For this reason, perhaps, body satisfaction affects females' ability to perform a pantomime whereas it does not have a similar affect on males' ability to perform pantomime.

References

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Bahs, C. W. The Effect of the Nature and Degree of Body-Cathexis on Pantomimic Movement. Unpublished doctoral dissertation, Bowling Green State University, 1969.

Ball, J. M. The Relationship Between the Ability to Speak Effectively and the Primary Mental Abilities, Verbal Comprehension and General Reasoning. Speech Monographs, 1958, 25, 285-290.

Barnes, T. J. An Investigation of the Relationships Between Certain Personality Traits and Elements of Speaking Effectiveness. Unpublished doctoral dissertation, The State University of Iowa, 1960.

Calden, G., Lundy, R. M., & Schlafer, R. J. Sex Differences in Body Concepts. Journal of Consulting Psychology, 1959, 23, 378.

Cleveland, S. E., & Fisher, S. Behavior and Unconscious Fantasies of Patients with Rheumatoid Arthritis. Psychosomatic Medicine, 1954, 16, 327-333.

Cleveland, S. E., & Fisher, S. The Role of Body Image in Psychosomatic Symptom Choice. Psychological Monographs: General and Applied, 1955, 69, 1-15.

Cleveland, S. E., & Fisher, S. Body Image Boundaries and Style of Life. Journal of Abnormal and Social Psychology, 1956, 62, 373-379.

Cleveland, S. E., & Fisher, S. Body Image and Personality. Princeton, N. J.: D. Van Nostrand, 1958.

Drake, F. E. A Study of the Personality Traits of Students Interested in Acting. Speech Monographs, 1950, 17, 123-133.

Duff, D. F., Horowitz, M. J. & Stratton, L. O. Body-Buffer Zone. Archives of General Psychiatry, 1964, 11, 651-656.

Ferguson, George A. Statistical Analysis in Psychology and Education. New York: McGraw-Hill, 1966.

Finfgeld, T. E. The Ability to Select Words to Convey Intended Meaning. Quarterly Journal of Speech, 1966, 52, 255-258.

Fisher, S. A Further Appraisal of the Body Boundary Concept. Journal of Consulting Psychology, 1963, 27, 62-74.

Fisher, S., & Fisher, R. L. Body Image Boundaries and Patterns of Body Perception. Journal of Abnormal and Social Psychology, 1964, 68, 255-262.

Gilkinson, H., & Knower, F. H. Individual Differences Among Students of Speech as Revealed by Psychological Tests. Quarterly Journal of Speech, 1940, 26, 243-255.

Golden, A. J. Personality Traits of Drama School Students. Quarterly Journal of Speech, 1940, 26, 564-575.

Guilford, J. P. Psychometric Methods. New York: McGraw-Hill, 1954.

Jourard, S. M., & Secord, P. F. The Appraisal of Body-Cathexis: Body-Cathexis and the Self. Journal of Consulting Psychology, 1953, 17, 343-347.

Jourard, S. M., & Secord, P. F. Body Size and Body Cathexis. Journal of Consulting Psychology, 1954, 18, 184.

Jourard, S. M., & Secord, P. F. Body-Cathexis and the Ideal Female Figure. Journal of Abnormal and Social Psychology, 1955, 50, 243-246. (a)

Jourard, S. M., & Secord, P. F. Body-Cathexis and Personality. British Journal of Psychology, 1955, 44, 130-138. (b)

McFarland, J. H., Wapner, S., & Werner, H. The Relation Between Perceived Location of Objects and Perceived Location of One's Own Body. Perceptual Motor Skills, 1962, 15, 331-341.

Secord, P. F. Objectification of Word-Association Procedures by the Use of Homonyms: A Measure of Body-Cathexis. Journal of Personality, 1953, 21, 479-495.

Secord, P. F., & Jourard, S. M. The Appraisal of Body-Cathexis: Body-Cathexis and the Self. Journal of Consulting Psychology, 1953, 17, 343-347.

Stock, W. H. Some Factors Affecting Excellence in Acting. Paper read at the American Educational Theatre Association Convention, Los Angeles, California, August, 1969.

Stockwell, J. C. The Effects of the Body Image Dimensions of Satisfaction and Boundary on Pantomimic Movement. Unpublished doctoral dissertation, Bowling Green State University, 1970.

Tracy, J. A. A Study of Personality Traits of Mature Actors and Mature Public Speakers. Speech Monographs, 1935, 2, 53-56.

Wapner, S., & Werner, H. (Ed.) The Body Percept. New York: Random House, 1965.

Werner, H., & Wapner, S. Sensory-Tonic Field Theory of Perception. Journal of Personality, 1949, 18, 88-109.

THE RELATIONSHIP OF PERCEPTIONS OF THE BODY TO PANTOMIMIC ABILITY, II: BODY IMAGE BOUNDARIES

John C. Stockwell and Clarence W. Bahs

"The Relationship of Perceptions of the Body to Pantomimic Ability, I: Body Cathexis" reported results of experimentation with two specific body image dimensions--body satisfaction and body consciousness--as they related to subject's abilities to perform simple pantomimic movement. Body satisfaction--the nature of the feelings one has for the various parts and processes of the body--was shown to have a significant positive correlation with measures of success in female pantomimic movement. Body consciousness--the degree of importance one attaches to the body--yielded no significant relationship to male or female movement ability.

Some implications for further research in theatre and body image were clear. Two additional body image dimensions were cited as holding promise for measureable relationships to stage movement: (1) body image boundary--the degree to which one regards his body exterior as a defensive barrier armored against penetration, and (2) body buffer zone--an internalized projection of the space immediately surrounding oneself. The establishment of the reliability and the verification of the precise nature of the body satisfaction/performance correlation for females warranted continued investigation. Interest stirred by the consistent negative correlation tendency of body satisfaction and males' performance ability should prompt a second look at the phenomenon. And, finally, the potential relationships of both body image boundary and body buffer zone were still to be explored.

Of these two major body image variables remaining untouched in theatre research, the influence of the body image boundary construct was selected for investigation in this study. The reasons for its selection were partly arbitrary. The reviews of the psychological literature developing both dimensions promised meaningful applications to acting and stage movement. Buffer zone, for example, a person's awareness of himself in space, had ramifications relevant to the actor, director, and possibly even the audience member. How does the actor's awareness of himself in space affect his capacity to portray characterizations relating to other actors, available stage space, the audience, etc.? Does the director's comprehension of his own body buffer zone influence proxemics in his blocking? Do audience members become uncomfortable visualizing relationships between actors on stage that trespass their own body buffer zone

limits?

Boundary, however, appeared to be the more logical body image dimension to add to satisfaction in acting research than did buffer zone. (1) Body boundary was more efficiently and simply measureable for use as a dependent variable than was buffer zone. (2) Boundary very closely relates to the objective physical self (as does the satisfaction dimension) and, hence, appeared more likely than buffer zone to interact with satisfaction to affect pantomimic movement.

The implications for theatre research in the body image boundary dimension were obvious from reviews of the literature. Each individual sub-consciously perceives his body as a "base of operations," a segment of the world that is especially his, regarding it as bounding a complex system he has built up to cope with the world. People tend to manifest clear differences in perceptions of these system boundaries and the degree to which they experience them as definite and firm versus indefinite and weak. The primary assumption that governed the extensive body image boundary research of Fisher and Cleveland was that:

> . . . the person who [saw] his body as an area highly differentiated from the rest of the world and girded by definite boundaries had constructed a different type of 'base of operations' from that of the person who [regarded] his body as an area with indefinite boundaries (Cleveland and Fisher, 1958, 55-57).

The rigidity of those boundaries, it was expected, would reveal much about one's over-all life style and development.

Little conscious information about an individual's attitude toward his body image boundaries is available to himself, but such attitudes have been revealed in a variety of ways by projective tests. Using these projective tools, body image has been defined operationally in terms of the types of responses elicited to such measures. References which assign definite structure, definite substance, and definite surface qualities to the bounding peripheries of projective test stimuli are taken to indicate emphasis on the defensive barrier qualities of the body exterior; while responses having to do with bounding peripheries only in a negative sense, emphasizing their weakness, lack of substance, demarcation, and their penetrability, indicate minimal emphasis on the defensive barrier qualities of the body exterior.

In speculating why pantomime performance differences may appear among individuals who place differing degrees of emphasis on the defensive barrier qualities of their body exteriors, one may consider some obvious contrasts between the psychological significance of the body exterior and the body interior. The outer body layers, skin and muscle, are distinguished from the interior of the body by being more subject to voluntary control. In addition, the striate musculature provides a chief mode of voluntary expression. The body interior, conversely, is an area of involuntary response and much less subject to direct control. It was not surprising, consequently, to notice that prior psychological research had illustrated causal relationships between an individual's degree of concern with his body exterior as a defensive barrier and successful participation in a variety of creative activities (Fisher and Cleveland, 1956, 373).

Problem

Simply stated, the problem this study posed was: What were the relationships of the body image variables of satisfaction and boundary on subjects' abilities to use their bodies to project a meaningful pattern of movement?

The specific purposes of the experimental procedures employed were (1) to measure more precisely the effect of the satisfaction dimension of body image on pantomimic movement, (2) to measure the effect of varying degrees of barrier qualities attached to an individual's body image boundaries on pantomimic movement, and (3) to measure the conjunctive effects of both variables on pantomimic movement.

Procedure

The Body-Cathexis Scale, the measure of body satisfaction employed in Bahs and Stockwell, I, and the Barrier Scale, a projective homonym test yielding a "barrier" score as an index of body image boundary (Hartley, 1967), were administered to a group of college freshmen with no acting experience drawn from an introductory speech course at Bowling Green State University. Subjects whose scores fell above or below the inter-quartile range on both tests were selected for participation in the experiment. Body image boundary and satisfaction interacting with one another produced these four mutually exclusive treatment groups:

(1) $\text{Satisfaction}_H/\text{Barrier}_H$,

(2) $Satisfaction_H/Barrier_L$,
(3) $Satisfaction_L/Barrier_H$, and
(4) $Satisfaction_L/Barrier_L$,

(where H=high and L=low).

Forty-eight subjects were selected to participate in the experiment; 12 subjects per treatment group, 6 males and 6 females.

A simplified pantomime was used as the criterion measure of movement ability (Stockwell, 1970, 34-37). The subjects were asked to perform a series of commonplace tasks--to use their bodies to communicate a story, a "bit" of action, designed to involve the performer in the pantomimic use of his whole body.

Qualified faculty and graduate student judges rated the subject's performances on equal-interval scales of acceptability for the six specific judging criteria employed in the Bahs study: (1) "overall evaluation," (2) "face," (3) "arms and hands," (4) "torso," (5) "feet and legs," and (6) "fluidity." The raw data included seven judges' scores of each of these six judging criteria for forty-eight subjects (Stockwell, 1970, 123-128).

Treatment of Data

Two-dimensional analyses of variance were applied to the data for all six of the judging criteria. The treatment dimension was divided into levels according to subjects' scores on the criterion measures of the independent variables (Sat_H/Bar_H, Sat_H/Bar_L, $SSat_L$/Bar H, Sat_L/Bar_L), and the second dimension was sex. Before the analyses of variance were computed, however, the data were pre-tested for judgment reliability and independence of the criterion measures.

To determine judgment reliability, Ebel's analysis of variance formula (Guilford, 1954, 395-397) for reliability was computed for all subjects, homogeneously grouped, and independently for male and female subjects, on each of the six judging criteria. The coefficients indicated significant reliability at the .05 level for all criteria except "feet and legs," for females (Stockwell, 1970, 42-45). The reliability of the data appeared to warrant its further testing.

Results

This study hypothesized generally that communicative

movement abilities would be significantly differentiated between treatment groups formed by the conjunctive operation of body image boundary and satisfaction in a personality structure. The primary results related to this hypothesis grew out of a series of two-dimensional analyses of variance. Their summary tables are presented in Table I.

TABLE I

Table of F for Interaction--Two-Dimensional Analysis of Variance

Sources of Variance	df	F
Overall evaluation	3/40	14.90*
Face	3/40	17.76*
Arms and hands	3/40	9.94*
Torso	3/40	6.49*
Feet and legs	3/40	9.95*
Fluidity	3/40	8.80*

*Significant at the .05 level.

In these two-dimensional analyses of variance, significant interaction for each of the six judging criteria were isolated, indicating that body image satisfaction, body image boundary, and performer sex interacted to affect success in performing simple, pantomimic movement.

The two-dimensional variance models were split by levels and simple analyses of variance were computed for males and females on each judging criterion (Stockwell, 1970, 62-67) in an attempt to explain the interaction.

Following the isolation of significant differences on treatment groups collapsed by sex, Scheffe's a posteriori mean comparisons were computed (Ferguson, 1966, 295-297. Several conclusions were drawn from the significant differences between means presented below and in Tables 2 and 3.

TABLE 2

SCHEFFE'S A POSTERIORI METHOD, MEAN COMPARISONS
AFTER ANALYSIS OF VARIANCE, MALE SUB-GROUPS

Comparison	Means	df	Obtained F'
	OVEPALL EVALUATION		
Sat_HBar_H	33.83	3/20	26.75*
Sat_HBar_L	17.83		
	FACE		
Sat_HBar_H	33.83	3/20	40.17*
Sat_HBar_L	16.50		
Sat_HBar_H	33.83	3/20	42.03*
Sat_LBar_L	16.33		
	ARMS AND HANDS		
Sat_HBar_H	34.00	3/20	26.79*
Sat_HBar_L	19.00		
	TORSO		
Sat_HBar_H	29.17	3/20	19.03*
Sat_HBar_L	17.00		
	FEET AND LEGS		
Sat_HBar_H	28.33	3/20	23.30*
Sat_HBar_L	17.00		
Sat_HBar_H	28.33	3/20	15.80*
Sat_LBar_L	19.00		
	FLUIDITY		
Sat_HBar_H	29.00	3/20	21.98*
Sat_HBar_L	15.83		

*Significant at the .01 level.

1) On all six judging criteria, males in the high satisfaction, high barrier (Sat_H/Bar_H) treatment group were scored as performing pantomimic movement significantly better than the high satisfaction, low barrier (Sat_H/Bar_L) treatment group.

TABLE 3

SCHEFFE'S A POSTERIORI METHOD, MEAN COMPARISONS AFTER ANALYSIS OF VARIANCE, FEMALE SUB-GROUPS

Comparison	Means	df	Obtained F'
	OVERALL EVALUATION		
Sat_HBar_L	34.67	3/20	37.90*
Sat_LBar_L	19.83		
	FACE		
Sat_HBar_L	35.00	3/20	45.89*
Sat_LBar_L	17.00		
	FEET AND LEGS		
Sat_HBar_L	28.67	3/20	27.20*
Sat_LBar_L	18.33		
	FLUIDITY		
Sat_HBar_L	27.33	3/20	16.43*
Sat_LBar_L	18.33		

*Significant at .01 level.

2) On the "face" and "feet and legs" judging criteria, males in the high satisfaction, high barrier (Sat_H/Bar_H) treatment group scored significantly higher than those in the low satisfaction, low barrier (Sat_L/Bar_L) treatment group.

3) On the "overall evaluation," "face," "feet and legs," and "fluidity" criteria, females in the high satisfaction, low barrier (Sat_H/Bar_L) treatment group were scored significantly higher on their pantomimic movement ability than the low satisfaction, low barrier (Sat_L/Bar_L) treatment group.

It was interesting that in all cases of significant mean differences for males, barrier from "high" to "low," was the variable which provided the distinction between the successful performance groups and the unsuccessful performance groups; while for females, satisfaction was the variable related to successful and unsuccessful performers.

It appeared likely at this point that correlation co-

efficients computed between the sexes' performance scores and the independent variables (satisfaction and barrier body image scores) would reveal more precise information about the relationship of body satisfaction and body image boundary to communicative bodily movement. The coefficients presented in Tables 4 and 5 resulted from the computation of Pearson product moment correlations.

TABLE 4

TABLE OF CORRELATIONS (r) AND CORRECTED CORRELATIONS (r_{xw}) FOR BC SCORES AND PANTOMIME PERFORMANCE SCORES

Criterion	Male		Female	
	r	r_{xw}	r	r_{xw}
Overall evaluation	.08	.08	.47*	.50*
Face	.03	.03	.51*	.54*
Arms and hands	.00	-.01	.49*	.50*
Torso	.09	.10	.35	.39
Feet and Legs	.14	.16	.45*	.50*

*Significant at the .05 level.

1) There was a significant positive correlation between females' body satisfaction and pantomimic movement performance scores. This finding was supportive of corresponding data in Bahs and Stockwell, I, although the correlation coefficients there were somewhat higher. The predictive value of the satisfaction dimension for females' performance scores, suggested by earlier research, was strengthened by this finding.

2) There was no evidence of a relationship between body satisfaction and male performance ability. This finding did not provide support for the suggested negative correlational tendency of the corresponding data in the earlier study.

3) Body image boundary was found to correlate sign-

ificantly with performance ability for male subjects on all judging criteria.

TABLE 5

TABLE OF CORRELATIONS (r) AND CORRECTED CORRELATIONS (r_{xw}) FOR BARRIER SCORES AND PANTOMIME PERFORMANCE SCORES

Criterion	Male		Female	
	r	r_{xw}	r	r_{xw}
Overall evaluation	.69*	.73*	-.06	-.06
Face	.69*	.74*	-.07	-.07
Arms and hands	.65*	.69	-.10	-.11
Torso	.58*	.64*	.08	.09
Feet and legs	.66*	.72*	.06	.07
Fluidity	.68*	.72*	-.02	-.02

*Significant at the .05 level.

4) In the case of females, there were no significant correlations between body image boundary scores and their pantomime performance ability.

Discussion of Results

The purpose of this study was to investigate the relationship of the body image variables of satisfaction and boundary to subjects' abilities to use their bodies to project meaningful patterns of movement. The results of the statistical analyses suggested that the relationship between pantomimic movement and the body image satisfaction/boundary constellation was not homogeneous for males and females; but, rather that the satisfaction dimension was positively related to female movement ability while the barrier dimension was positively related to male movement ability.

The relationship of body satisfaction to female move-

ment ability largely confirmed the findings of earlier research, and that explanation of the phenomenon appears to remain satisfactory. Research has indicated that females' satisfaction with their bodies varies with the magnitude of the deviation between their conceptualized appearance of themselves and what they consider to be the ideal female appearance (Jourard and Secord, 1955, 243-246). The closer the correspondence of their conceptualized appearance to their "ideal," the higher the degree of satisfaction, and vice versa. Other research has illustrated causal relationships between low female body satisfaction and anxiety (Jourard and Secord, 1953, 343-347)-- the anxiety resulting from a supposed lack of attainment of a culturally-imposed ideal female image. Bahs and Stockwell, I, suggested that this anxiety may be responsible for movement abilities differing for females on the satisfaction dimension, citing consistencies with earlier theatre studies of actors' personalities. The failure of body satisfaction to relate to males' movement ability was explained in terms of the relative unimportance of a cultural stereotype or ideal with respect to masculinity as compared to femininity. Males probably do not experience anxiety related to body satisfaction/dissatisfaction as fully as do females; hence the ability of males to perform simple pantomimic movement was not affected by this variable to a significant degree.

The satisfaction dimension was positively and significantly correlated with females' abilities to perform simple pantomimic movement. However, among males the body image boundary dimension was found to correlate positively and significantly with pantomimic movement ability. Why should this second phenomenon have occurred?

Positive relationships have frequently been illustrated between boundary definiteness and achievement behavior in a variety of tasks. Fisher and Cleveland, for example, observed that individuals whose boundaries are definite can tolerate stress well, are self-steering in their behavior, and are motivated toward high achievement (Cleveland and Fisher, 1958, 117-152). On bases such as this, the hypothesis of this paper was formulated. Rhoda L. Fisher, however, found that among young people of middle school age, levels of achievement for high barrier subjects differed among males and females (Fisher, 1966, 435-438). Academically and socially, the high boundary males behaved in a manner generally associated with the body image boundary model for high barrier scorers--their achievement was typically high. High boundedness in the female subjects correlated with high achievement in academic behavior, but failed to correlate with "general trait" behavior, or social behavior.

The achievement drive typically associated with high body image boundary subjects was not found correlated in female subjects as it was in male subjects. This differential relation of the achievement drive in males and females has been noted also by other researchers (Heilbrun, 1963, 438-490).

There are evidently certain specific levels of achievement, typically associated with the high body image boundary model, that female subjects may not express. It is likely that the type of activity associated with the dependent variable in this study--the pantomime task--was one of those "social" activities. The probable effect for females was to level the variances in degrees of achievement which would normally be expected to correlate with variances in body image boundary.

There are certain limitations of this study that will restrict somewhat the applicability of its results. Suggestions of "causality" should be avoided on both dimensions of the independent variable. The data from this experiment have made it clear that both body satisfaction and body image boundary are related respectively to female and to male pantomimic performance ability. There is at this point, however, insufficient evidence to insure a predictive or causal relationship between body image perceptions and communicative bodily movement.

There is certainly no justification for generalizing freely from these results to the acting situation. Acting within the theatre context is a multi-faceted task, in which basic communicative movement, such as that employed in the dependent variable of this study, may be altered by a wide variety of intervening variables accompanying acting: the highly structured script from which the actor works, the implementation of the verbal sensory modality, the actor-audience relationship, the actor-director relationship, actor-actor relationships, etc.

Finally, this study was dealing with untrained "actors." No one yet knows what attenuating effects experience in acting performance has on body image as it relates to the kind of communicative movement under investigation here.

Research Implications

This paper was designed, concurrently with Bahs and Stockwell, I, as a preliminary experimental investigation of the relation of specific body image dimensions to the most basic kind of communicative movement. Limited as both studies were by designs and purposes, more questions were raised than were re-

solved. A variety of fruitful suggestions for further research have emerged.

1) It would be of value to determine whether subjects' abilities to perform a pantomime could be influenced by the buffer zone dimension of body image.

2) An intensive analysis using more subjects in a greater number of pantomime performance activities is needed to provide a more definitive picture of the effect of body satisfaction and body boundary on a variety of acting skills for males and females.

3) Research is needed with trained and skilled actors to determine what attenuating effects acting experience could have on the relationships between the body image variables and actors' abilities to use their bodies as communicative instruments.

4) Investigation should be undertaken to discover whether or not performance abilities can be affected by altering perceptions of body satisfaction or boundary. If an actress were told she should be satisfied with her body and this notion were continually reinforced, would there be any appreciable effect on her acting ability? Is it possible that reinforcement of the definiteness of an actor's body image boundary could alter significantly his communicative movement ability? Psychological research findings have indicated the very real possibility of manipulating body attitudes <u>via</u> special body attention exercises (Fisher and Renik, 1966, 429-434). The research offered direct evidence that the barrier score was a function of certain body experiences, and by short-termed focus of attention on various body sites, the barrier score was affected significantly. The implications of such findings to research exploring acting exercises are clear.

5) Finally, exploration of the practicality of developing body image diagnostic tools to predict success in acting is suggested.

It has appeared as a result of this on-going research into body image and communicative bodily movement, as well as other recent related psychological research in the theatre, that frequent presuppositions about actor training and acting ability need to be brought under scrutiny. At least, terms need to be redefined. Is a unique "talent" necessary to full physical expression of a convincing characterization? Perhaps so, if "talent" is understood to imply a personality constellation

whose dimensions, in part, at least, are learned and can be unlearned or modified; for it appears that this may be the case with body image satisfaction in the female population and body image boundary in the male population.

In short, personality variables seem to be related to aspects of the actor's achievement. Body image emerged as one of these variables. The recognition and exploitation of this relationship should result in more efficient methods of actor training and a clearer understanding of the actor's art.

References

Dr. John C. Stockwell is Assistant Professor of Drama at San Fernando Valley State College, Northridge, California. Dr. Clarence W. Bahs is Assistant Professor of Drama at Michigan State University, East Lansing, Michigan. This study is based on: Stockwell, The Effects of the Body Image Dimensions of Satisfaction and Boundary on Pantomimic Movement, Unpublished Ph.D. dissertation, Bowling Green State University, 1970, completed under the guidance of Dr. Allen N. Kepke. This paper was presented at the annual convention of the American Theatre Association, Chicago, August, 1971.

Bahs, C. W. The Effects of the Nature and Degree of Body-Cathexis on Pantomimic Movement. Unpublished Ph.D. dissertation, Bowling Green State University, 1969.

Cleveland, S. E., Fisher, S. Body Image and Personality. Princeton: D. Van Nostrand Company, Inc. 1958.

Ferguson, Goerge A. Statistical Analysis in Psychology and Education. New York: McGraw-Hill, 1966.

Fisher, Rhoda L. Body Boundary and Achievement Behavior. Journal of Projective Techniques and Personality Measurement, 1966, XXX, 435-438.

Fisher, F., Cleveland, S. E. Body Image Boundaries and Styles of Life. Journal of Abnormal and Social Psychology, 1956, LII, 373.

Fisher, S., Renik, O. D. Induction of Body Image Boundary Changes. Journal of Projective Techniques and Personality Assessment, 1966, XXX, 429-434.

Guilford, J. P. Psychometric Methods. New York: McGraw-Hill, 1954.

Hartley, R. B. The Barrier Variable as Measured by Homonyms. Journal of Clinical Psychology, 1967, XXIII, 196-203. .

Heilbrun, A. B. Sex Role Identity and Achievement Motivation. Psychological Reports, 1963, XII, 438-490.

Jourard, S. M., Secord, P. F. The Appraisal of Body-Cathexis: Body-Cathexis and the Self. Journal of Consulting Psychology, 1953, XVII, 343-347.

Jourard, S. M., Secord, P. F. Body-Cathexis and the Ideal Female Form. Journal of Abnormal and Social Psychology, 1955, L, 243-246.

Stockwell, J. C. The Effects of the Body Image Dimensions of Satisfaction and Boundary on Pantomimic Movement. Unpublished Ph.D. dissertation, Bowling Green State University, 1970.

"BELIEVABILITY" IN ACTING: CONCEPT INTO CONSTRUCT

George Gunkle

This essay is an attempt to show one way in which the concept of "believability" as a judgement of an acting performance can be fitted into a communications context as a construct related to other constructs.

At other times, similar attempts were made with such concepts as "overacting" and "feeling the emotion of the character" (Gunkle, 1966).

The terms "concept," "construct," and "variable" have a fairly common center of meaning, at least among students of communication and behavioral research. In general, it would appear that the three terms could be used almost interchangeably, and that choice reveals the context to be emphasized.

In this essay, a concept in acting is thought of as "an abstraction formed by generalization from particulars" (Kerlinger, 1967, p. 31), while a transformation of it into a construct will be considered to have happened when it has been placed into the language context of behavioral and communication terms and where the concept is either operationally defined or brought into relationship with other terms that already have a widely shared and publicly understood meaning.

> A construct, then, may also be considered as a purposefully designed model; as such, the relations between model and empirical data are explicated. For example, 'imitation,' defined earlier as a concept, may be used as a scientific construct in a particular, intentional, and systematic fashion. 'Imitation' may be related to and defined in terms of numerous other constructs, like 'motivation' and 'reinforcement'; it also may be defined in terms of observable data (Emmert and Brooks, 1970, p. 16).

In the marketplace of acting language, a most interesting focus is upon the endlessly recurrent concepts of "belief," "believability," "believing your actions," and "sustaining belief" (McGaw, 1966). A most recurrent criticism to an actor of his performance today is "I didn't believe you." This paper focuses on the concept of "believability" and on the related judgments of an acting performance, as "I did . . ." or "I didn't believe you."

It must first be pointed out that in most of the

writing on acting, particularly in acting texts and in records of what actors have had to say about acting, there is no model of theatre explicitly stated and systematically presented. What kind of theatre toward which the concepts discussed are particularly relevant remains deeply buried, implicit in the discussion but rarely more than hinted at. Elsewhere I have articulated some of the features of what has appeared to me to be the most prevailing model of theatre. I have done so using some common concepts in communication, and I have labeled it "the play-making model"(Gunkle, 1970, pp. 171-177). It is this model which is implicit in most, though not all, of our acting training in this country. This discussion of "believability" proceeds within the context of that larger model.

"Believability" and the judgment of an acting performance, such as "I didn't believe you," is characteristic of but a small segment of persons who witness an acting performance. The concept seems to be invoked mostly by other actors, acting teachers, directors, casting directors, and a few others deeply involved in theatre. "Effectiveness" of performance--how good or bad it is thought to be--and what "impact" it may have upon the thousands who see it may have some relationship to "believability," but I don't think the last is a term that comes naturally to the lips of the average theatre-goer. If these assumptions are accurate, then the subject under study here is a construct of potential importance only to a highly specialized group of perceivers.

The task would be simple if I could substitute the construct, "credibility," as it has been heavily investigated in communications research, for "believability" (Thompson, 1967, Miller, 1966). This solution, however, may not be entirely satisfactory.

The simplest way to explain why is to point out that credibility is a judgment or perception attributed by a receiver to a source, whereas "believability" is a judgment or perception attributed by certain specialized receivers to the source's message; i.e., in the theatre context, to the actor's performance. While there is probably a relationship between source credibility of the actor and "believability" of his performance, the two concepts do not seem to emphasize the same elements in the communication process.

It is, of course, quite interesting to apply "source credibility" to the theatre in at least the following two ways: it could focus our attention upon the actor-as-source-of-messages

in the broader social context in which a particular performance is a message of special interest; and it could focus our attention upon a particular fictional character-as-source-of-messages within the particular fictional context of a play.

In the former case--the source credibility of the actor--to apply such narrower perceptual components as competence and trustworthiness would get us into variables related to his reputation in the broad social context. To the extent that it could be established that prior reputation may influence judgments of "believability" of performance made by his peers, agents, and the like, we might be able to account for one of the potential influences upon the "believability" judgment. At best, this is largely tangential to what is really going on when that judgment is made.

In the other instance, attending to the source credibility of a particular fictional character is something that most perceptive readers of scripts have long since been engaged in. While the language of source credibility theory has not been used, it is implied in the following typical questions: When the character says something, how far is he to be believed? If the accounts of several characters clash, which of the characters can be taken to be speaking truth? When Marcellus in (Hamlet) says that something is rotten in the state of Denmark, is this really so? Would similar observations by Prince Hamlet be accurate or would he be influenced by the tremendous biases stemming from his jaundiced relationship to some of the key figures in power in the Denmark of the play? Such questions can be asked in the script-reader situation and in the actor-audience performance subsystem. And, indeed, many playwrights undoubtedly work their magic by carefully manipulating cues within the context of their fictional worlds so that the credibility of the various interacting sources may be purposely ambiguous. But again, such questions have little to do with the processes to which judgments of "believability" refer.

I should like to present, instead, the bare bones of what might be called a "discrepancy" model. The notion is taken from some of the social processes Erving Goffman has pointed out in The Presentation of Self in Everyday Life (1959). Some constructs and some relationships within this sparse model would take us further toward an understanding of the pervasive "believability" judgments which suffuse an actor's life in training and in many ways make it more difficult.

The key constructs in a discrepancy model grow out of

the norms or rule systems within a culture that permit us to assign meaning to expressive behavior. Person Perception theorists have long focused attention upon the complications involved in everyday communication when we try to infer from expressive behavior such characteristics of other persons as mood states, personality traits, intentions, and motivations (Tagiuri and Petrullo, 1958; Heider, 1958). I would like to begin by distinguishing some rule systems which are informally absorbed in our culture.

One type of rule system permits us to make inferences about the internal life of others from the expressive behavior of particular codes. In human communcation, we can specify at least the following: the language code; five paralanguage codes (pitch, rate, loudness, voice quality, and articulation); and innumerable extra-linguistic codes, such as facial expression, gesture, posture, place-to-place movement, and the like. While some of these rule systems have been more heavily studied than others, the average adult in our culture has absorbed some of the rules of these codes sufficiently that he is not in a perpetual state of mystification about how to interpret most of the expressive behavior around him. This is not to say that interpretations can proceed without ambiguity and error, but the margin of uncertainty for the average person is so pervasive that he is quite accustomed to it.

Another type of rule system--a type that has been studied far, far less and yet may be of tremendous importance--is the rule system which coordinates information on channels and codes, so that groups of these can be taken together to permit inferences about internal life of others from larger networks of expressive behavior. This type of rule system is almost everywhere drawn upon by specialized individuals in the theatre working with actors. I have some difficulty finding any systematic presentations of this sort of rule system, but one, at least, might be illustrative: Argyle's "equilibrium" theory of intimacy (1967, pp. 105-116). While Argyle's presentation of this is very sparse and sketchy, the burden of it is to suggest that any inferences we make about the degree of intimacy with us desired by someone else is a function of a complicated balance of information across all interpersonal channels and codes. Thus, if a person wishes to say something more personal to us without wishing to connote the desire for a greater degree of intimacy, he may counter-balance this by shifting his eye contact away, or adjusting his posture, or moving to a greater distance from us. Maintaining a desired equilibrium or advancing to a greater degree of intimacy, or retreating to a lesser degree of intimacy

with another is communicated by a constant counterbalancing of information on all interpersonal codes and channels. This counterbalancing may often operate outside the communicator's awareness. Errors in interpreting the degree of intimacy with us desired by others are, unfortunately, owing to the inevitable ambiguity in the rules or to ignorance of the rules by the participants (Heider, 1958, p. 35ff).

A third type of rule system which may modify our expectations growing out of the previously mentioned systems is that which helps us to assign meaning to expressive behavior in contexts more specialized than those of everyday life. I am thinking here of the conventions which evolve within the more specialized performance forms, such as acting in the theatre, dance, mime, and the like.

Now, we may safely assume that actors and their audiences, including highly critical ones, because of their shared culture, share to a considerable extent many of the same rule systems regarding the meaning of expressive behavior. And while there may be expected to be a large area of overlap, there is also bound to be an area within which actor and perceiver may be at considerable variance. One of two things, at least, can happen: the perceiver is mystified; or the perceiver "disbelieves," and the "I didn't believe you" reaction on which I would like to concentrate, may well stem from one or another of a variety of discrepancies attributed by a receiver to the message or acting performance.

Each of the rule systems can, therefore, generate discrepancy judgments in perceivers to the extent that there may be a clash in informally abosrbed rules. In the first instance, there can be discrepancies regarding the assignment of meaning within particular codes; there can also be discrepancies regarding the assignment of meaning to larger networks of expressive behavior; and finally, there can be discrepancies regarding the specialized rules (conventions) of expressive behavior in a special context, such as the theatre. Also, among these kinds of discrepancies, there can be variously a synchronic form and a diachronic form. A synchronic discrepancy would arise when behavior expressed simultaneously through several different codes may not conform to a perceiver's expectancies (rule system). Such discrepancies could only arise within the context of the second and third rule systems indicated above. However, diachronic discrepancies which refer to the relationship between expressive behavior at two or more different times during the communicative act could arise through a failure to conform to a

perceiver's expectancies (rule systems) in all three of the types of rule systems already discussed.

In purifying and narrowing the term, "believability," into a communications construct, I suggest that we make of it one end of a perceptual continuum, the other end of which may be labeled by the term, "discrepancy." I suggest also that perceptions on this axis are a function of the degree of overlap between the actor and his critic on multiple rule systems which permit each of us to assign meaning to a tremendous variety of expressive behavior.

In conclusion, I would like to discuss some of the implications of this admittedly sketchy presentation. For one, the usual authoritarianism (not always benevolent) with which the director or acting coach criticizes the student of acting is not entirely justified. If an acting coach criticizes a scene or other performance as not "believable," the strongest interpretation that can be placed on this is that the coach's grasp of the multiple sets of norms--particularly those peculiar to the theatre--is more mature and more reflective of the standards of the profession. In general, however, he is apt also to be farther away from the rule systems of the mass audience than he realizes. It is perfectly appropriate for the acting coach to insist on expressive behavior from an actor that conforms to the coach's rule systems, but in view of the fact that even among acting instructors there exist areas which do not overlap, judgments which he makes with the best of intentions should be reasonably qualified by the great variations even among specialized persons in the field.

The actor is in a more precarious position than the interpersonal, small group or dyadic communicator of everyday life. In typical life situations, the source has ample opportunity through rapid feedback to check out whether he is achieving his communication goals. Audience feedback for the actor in performance is much more ambiguous, inhibited, and may be interpreted as having bearing on the success of intentions quite different from that of being "believable." Indeed, at present it is merely an assumption that "believability"--or, as stated here, the avoidance of discrepancies--stands in some important relationship to other behavioral goals in the theatre, such as making an audience laugh or making them cry or shaping in some way or another a texture of feelings most of which do not erupt in overt and easily interpretable audience behavior in the theatre.

There is another complicating feature of the situation peculiar to the theatre. Certain "styles" of acting which we in the theatre feel are particularly appropriate to certain kinds of plays--rule systems of the third kind, mentioned earlier--are learned by an audience only through theatre-going and are learned by the actor in ways ranging from inarticulate absorption from other actors in particular shows to highly articulate scholar-teachers who may be somewhat at variance with each other. In such situations, whose judgment of "believability" is an actor to aim at? It is not surprising that the dedicated actor sometimes tends to confine himself to a particular acting instructor and to study over a long period of time with that person, for indeed it is certainly easier to pin his success against the norms of one nervous system and to cope with the bewildering arena of values by anchoring his development in a single person. When this happens, it places an enormous responsibility upon the acting instructor. In such a situation, I am not at all sure that the acting instructor would profit by indulging in the reservations and complications suggested in this paper. To do so would risk paralysis on the firing line.

In addition there is often imposed upon the actor the goal of novelty or inventiveness--a requirement that he produce solutions to his encoding problems that are unusually interesting or even surprising. The ability to do this while at the same time avoiding accusations of discrepancy is a feat that is truly remarkable. The cognitive processes at work which permit an actor to please his mass audience while at the same time pleasing the specialized critics with whom he works on such dimensions as "believability" and novelty seem to me to be well worth the interest of the empirical scholar of acting behavior. I hope that such stabs in the dark as the present one would help foster such inquiry.

Finally, as was pointed out to me by a graduate student in acting and a professional actress in her own right, the judgment, "I didn't believe you" as applied to an acting performance is almost useless if it stands by itself without very articulate qualification. "Believability" is obviously a global term and what some have called a "God-term." Its opposite, "I didn't believe you" is a "Devil-term" under which all kinds of reservations a critic may have of an acting performance can lurk. Unless we can accept the complexities of illusions actors attempt to manipulate and try to deal with those illusions with greater specificity, those of us responsible to engineer a productive learning environment may have a difficult time arguing that we really know what we are doing.

References

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Argyle, Michael. The Psychology of Interpersonal Behavior. Baltimore: Penguin Books, 1967, p. 25 and pp. 105-116.

Emmert, Philip and Brooks, William D., Eds. Methods of Research in Communication. Boston: Houghton Mifflin Company, 1970.

Goffman, Erving. The Presentation of Self in Everyday Life. Garden City, New York: Doubleday & Company, Inc., 1959.

Gunkle, George. A Way of Talking About Acting. The Speech Teacher, XV, 1966, 303-311.

Gunkle, George. Empirical Research in Theatre: State of the Art, 1970. Educational Theatre Journal, XXIII, 1971, 171-177.

Heider, Fritz. The Psychology of Interpersonal Relations. New York: John Wiley & Sons, Inc., 1958.

Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1967.

McGaw, Charles. Acting is Believing. New York: Holt, Rinehart and Winston, Inc., 1966.

Miller, Gerald R. Speech Communication, A Behavioral Approach. Indianapolis: Bobbs-Merrill Company, Inc., 1966.

Tagiuri, Renato and Petrullo, Luigi, eds. Person Perception and Interpersonal Behavior. Stanford: Stanford University Press, 1958.

Thompson, Wayne N. Quantitative Research in Public Address and Communication. New York: Random House, 1967.

MICRO-MOMENTARY FACIAL EXPRESSIONS AND THE ACTOR: AN INVESTIGATION

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Acting is often described as a form of masking behavior in which the actor's own personal thoughts, feelings, and attitudes are masked by the role he has assumed for the stage.

The mask is more or less complete, depending upon the skill of the actor; but even when the mask is relatively complete, there are occasions when it becomes difficult, or almost impossible, for the actor to mask completely his own personal feelings of nervousness, fatigue, or fear. We suspect that, on these occasions, such flaws or "cracks" in the mask may be detectable as "micro-momentary facial expressions:" expressions which may not be ordinarily or consciously detected by the unaided eye, but may be distinct and identifiable in slow motion photography. Specifically, micro-momentary expressions (MME's) are distinct and identifiable but have a duration of no more than one-fifth second.

Viewing non-verbal behavior as communicative of internal emotional states is, of course, not a new concept in the study of human behavior. Charles Darwin (1929, p. 349), in his classic Expressions of the Emotions in Man, speaks of non-verbal behavior in humans. He defined recognizable expressions as "actions of all kinds, if regularly accompanying any state of the mind..." He observed further, "Some actions ordinarily associated through habit with certain states of mind may be partially repressed through the will, and in such cases the muscles which are least under the separate control of the will are the most liable still to act, causing movements which we recognize as expressive. In certain other cases the checking of one habitual movement requires other slight movements; and these are likewise expressive" (Darwin, 1929, pp. 48, 49).

At this time, very little research has been conducted to study MME's. That research which has been done has dealt primarily with MME's in emotionally disturbed patients engaged in clinical psychotherapy situations. The only published study to date was conducted by Haggard and Isaacs (1966, pp. 154-165) in which, through the slow motion analysis of motion picture films of psychotherapy sessions, they were able to isolate distinct changes in facial expression which occurred at a rate of speed ordinarily imperceptible to the human eye. They defined a micro-momentary facial expression as a distinct change of facial expression from one identifiable expression to a qualitatively different expression which lasts from one-eighth to

one-fifth of a second in total duration. They found these MME's to be consciously observable only when the films were shown in slow motion; the MME's were not consciously detectable when the films were viewed at the normal rate of twenty-four frames per second (fps). Their findings suggest that the micro-momentary changes in facial expressions were indicators of the individual's internal affective state, but were rapidly emitted due to the process of repressing or concealing the internal state. Haggard and Isaacs, in their research, have thus established that MME's occur when the individual is attempting to inhibit or deny his internal emotions. Furthermore, their data indicated that MME's also tend to occur when the individual is, consciously or unconsciously, involved in a context of conflict. They found MME's to occur both as exaggerations of the overall facial expression, and as expressions that were different from and incompatible with the overall expression.

Ekman and Friesen (1969, pp. 88-106) in their experimental investigations of the relationship of non-verbal behavior to an individual's affective state developed a theory of "non-verbal leakage and deception clues" which rather dramatically supports the findings and data interpretations of the Haggard and Isaacs study of MME's. They found that certain non-verbal actions should be regarded as significant and important evidence that the individual's verbal message or behavior is deceptive, and that the information being provided in the verbal message is false. A distinction is drawn between two forms of deception: alter-deception, in which the individual conceals information from another; and self-deception, wherein the individual conceals information from, and in fact actually deceives, himself. The term "deception clues" is used to refer to those actions which may signal to others that some form of deception is in progress, but which do not reveal the concealed information. The betrayal of the concealed or withheld information itself is referred to as "leakage." Ekman and Friesen have examined "how, within deception interactions, differences in neuroanatomy and cultural influences combine to produce specific types of body movements and facial expressions which escape efforts to deceive and emerge as leakage or deception clues"(Ekman and Friesen, p. 88).

Ekman and Friesen (p. 97) distinguish between "micro affect displays" which are bodily or facial expressions they define as "so brief that they are barely perceptible to the untrained observer," and "macro displays" or the overall expression. They have observed that although, at times, the micro displays may involve the same muscular movements associated with a macro display, the micro displays are often antithetical or opposite

in meaning to the macro affect displays. They contend that the micro affect displays are frequently expressive fragments of a squelched, neutralized, or masked display.

In the theatre, acting theorists have long debated the problem of honesty in acting, the necessity for truth in the art of dramatic expression. Charles McGaw (1966, p. 8-9), in Acting is Believing, theorizes that it is necessary for the actor performing on the stage to believe what he is portraying, and he asserts that the performing actor's primary responsibility to his audience is to likewise induce the audience's belief in his actions.

The sustaining of belief is a difficult task for the actor, for his levels of concentration must be maintained at an intensity which facilitates and allows the honest creation and expression of the character being portrayed. The problem is both complicated and demanding, for not only must the actor learn to sustain his belief while operating within the limitations of theatrical conventions, while performing in the midst of the myriad and inevitable distractions inherent in the theatrical production, but he must also be able to sustain belief while being observed by, confronted with, possibly surrounded by, and even occasionally in direct contact with an audience. Furthermore, the actor must develop the necessary skills and capacities to be able to summon, and likewise sustain, his belief in what he is portraying whenever he is called upon to perform.

Since MME behavior was identified by Haggard and Isaacs in patients undergoing psychotherapy, it appeared reasonable to expect such non-verbal behavior also to be evident in certain non-clinical situations. It appeared likely, moreover, that the theatrical situation might be one of these. Based on the findings of the research reviewed above, it was speculated that a performing actor would be found to engage in MME behavior. Furthermore, it appeared reasonable to expect that as the number and intensity of distractions and stresses increased, the actor's rate and number of MME's would also increase. Finally, it was anticipated that the actor engaged in an informal, relaxed, everyday, real life interaction would elicit fewer MME's than he would while performing a dramatic role.

Before any attempts could be made to determine the relationship of MME behavior to the art of acting, however, it was necessary to attempt to isolate MME behavior in the performing actor. This study was such an attempt.

Procedure

As exploratory research, this investigation attempted to determine whether MME's are exhibited by a performing actor, and whether the number of MME's differed in three different situations. The three situations were chosen as instances in which varying degrees and types of stress would be present. They were:

1) The actor was filmed while performing a role in a dramatic production presented before an audience. The camera was hidden, and the actor was unaware that his performance was being filmed.

2) The same actor was filmed while performing a dramatic scene in an acting class. He was, at that time, fully aware that he was being filmed, but was not aware of the reason for the filming.

3) The actor was filmed in a real life situation while he was interacting with another person. The camera was hidden, and a long-range lens was used so that the actor was, at the time, unaware that he was being filmed.

In situation one, the actor presumably was coping with the aforementioned distractions and problems of sustaining belief in a role as he performed it before a live theatre audience. The actor was an experienced one, having portrayed a variety of roles. He was generally considered to be an actor of exceptional talent and skill. In this situation he was portraying the role of Jimmy Porter in John Osborne's, Look Back in Anger.

In situation two, the same actor had no foreknowledge that his performance was to be filmed, and was led to believe that his performance was being graded as a final project by his acting instructor who was also present. In this situation, our purpose was to create a climate of high anxiety for the actor in order to see if the number of MME's exhibited would be affected by increased stress. The camerawoman intentionally attempted to use the camera in an obtrusive and distracting manner, hoping to further frustrate the actor as he attempted to perform his role.

In situation three, the same actor was presumably interacting in a normal, everyday situation, and was unaware that the interaction was being filmed. It was assumed that any stress felt by the actor while he was being filmed would be related to his perceptions of the particular "real life" situation in which

he was involved.

In order to determine the actor's MME behavior, one hundred feet of sixteen millimeter motion pictures were taken of the actor in each of the three situations described above. The actor was filmed at intervals, during his performance, when his face was fully visible to the camera. Kodak Tri-X black and white film was selected for the study because it required no special lighting, and no equipment other than the sixteen millimeter Bolex camera used for the filming. A film speed of 64 fps was selected, assuming that it would allow for easier isolation of MME's.

The 100 foot films of the actor in each situation were examined for photographic clarity, and only those segments where the actor's facial features were clearly visible were selected for analysis. The length of these segments was determined solely by the continuity of action within the segments, which accounts for the differing length of segments analyzed. Since a time and motion analyzing projector was not available, the segments were analyzed frame by frame using a manually operated film-viewer of the type used for editing film.

The films were viewed several times by a trained observer with experience in working with films. Expression changes were counted and measured within each segment. Since the films were shot at 64 fps, each frame represented 1/64 sec. of actual time, and measurement was made by counting the number of frames for each facial expression. Expression changes lasting less than 13 frames (13/64 sec.) were judged to be micro-momentary expressions.

For verification, the films were independently viewed by a second judge instructed to note any changes of facial expression which occurred within 13 frames of film or less, and to record the number of frames for each of these micro-momentary expression changes. The findings of the two judges were than compared.

Results

SITUATION #1: In the analysis of the films of situation one, in which the actor was filmed while performing a role in a dramatic production, both judges reported MME's. Out of five film segments, judge #1 reported a total of 28 MME's ranging in duration from 2/64 of a second to 12/64 of a second. Judge #2 reported agreement on a total of 25 MME's. A summary

of the findings of both judges appears in Table I.

TABLE I

SITUATION #I
SUMMARY OF FINDINGS

	Segment	# Frames	# MME's	Range
Judge #I	I	23	3	2-12
	2	101	7	4-12
	3	321	10	3-10
	4	166	5	3-6
	5	267	3	8-10
Judge #2	I	23	2	2-12
	2	101	7	4-12
	3	321	10	3-10
	4	166	5	3-6
	5	267	I	10

SITUATION #2: In the analysis of the films of situation two, in which the actor was filmed in an obtrusive and distracting manner while he was performing a dramatic scene in an acting class, both judges reported only one MME: 12/64 of a second in duration. They found that in this situation the actor engaged in many distinct expression changes, including many which lasted only a second or two. For the most part, however, the expression changes were too long, by definition, to be judged as micro-momentary. A summary of the MME findings of both judges appears in Table 2.

SITUATION #3: In the frame by frame analysis of the films of situation three, in which the actor was filmed in a real life situation, neither judge was able to observe any MME's. It was noted that the facial expressions displayed by the actor in this situation were generally longer in duration than those displayed in situation two. A summary of the findings of both judges appears in Table 3.

Discussion

SITUATION #I: Based on the research of Haggard and

TABLE 2

SITUATION #2
SUMMARY OF FINDINGS

	Segment	# Frames	# MME's	Range
Judge #1	1	100	0	
	2	298	0	
	3	645	0	
	4	679	0	
	5	677	1	12
Judge #2	1	100	0	
	2	298	0	
	3	645	0	
	4	679	0	
	5	677	1	12

TABLE 3

SITUATION #3
SUMMARY OF FINDINGS

	Segment	# Frames	# MME's	Range
Judge #1	1	541	0	
	2	562	0	
	3	679	0	
Judge #2	1	541	0	
	2	562	0	
	3	679	0	

Isaacs, it was hypothesized that performing actors would be found to display MME's. Both judges agreed that in this situation the actor did indeed emit a number of MME's during his performance.

In viewing the films of the actor in this situation, it appears to the researcher that the micro-momentary "cracks" in the actor's mask may be expressions of his pleasure at his success within the portrayal of his role. His performance was considered a good one, and since the facial expressions which emerge as MME's seem to be those of pleasure, it appears plausible to speculate that the MME's indicate that he was aware that his performance was going well.

SITUATION #2: In this study, it was also suggested that as the number and intensity of distractions and stresses increased, the actor's rate and number of MME's would also increase. From the results of the analysis of the film segments of situation two, we see that this was not confirmed.

It appears that in this situation the distractions to which the actor was submitted interferred enough with his attempts at the sustaining of belief in his role that the brief facial expressions which appear to be indicators of his internal state of frustration were not masked successfully enough to allow them to fall within the MME range of 1/5 of a second or less.

SITUATION #3: Finally, it was expected that the actor engaged in an informal, relaxed, everyday, interaction would emit fewer MME's than he would while performing a dramatic role Since in the analysis of the film segments of situation three the judges were able to isolate no MME's on the part of the actor, this expectation was confirmed.

These findings suggest that when one actor presented a performance on a stage, two trained observers were able to detect a number of MME's when viewing films of the performance. The significance of the findings remains to be established, but two possibilities may be suggested.

First of all, the micro-momentary "cracks" or flaws in the actor's mask may indeed be flaws, and MME's may represent instances during which the actor's own internal state took dominance over his sustaining belief in his role. If that is the case, then MME's would occur, as both Haggard and Isaacs and Ekman and Friesen predicted, when the individual attempts to inhibit or mask his internal emotions. In view of the findings of this study, this interpretation appears plausible, for most of the MME's in situation one appeared to be indicative of his satisfaction with his performance. This, of course, warrants further investigation.